DETAILED ACTION

In view of the Appeal Brief filed on June 1, 2011, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Melvin Curtis Mayes/

Supervisory Patent Examiner, Art Unit 1732

Response to Arguments

Applicant's arguments, see appeal brief, filed on 06/01/2011, with respect to Mn/(Ra+A) not equal to 1 have been fully considered and are persuasive. Thus previous rejections have been withdrawn and new grounds of rejections have been issued as follows.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claim 1 and 4-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston (EP0680008) in view of Watanabe (JP09-316630) and Kodera (JP06-330297).

Johnston teaches a magnetoresistive material includes a compound of the form $A_wB_xC_yO_z$ wherein A is selected from one or more of rare earth element such as La, Y, Ce, Nd, Sm, Eu, Tb, Dy, Ho, Er, Tm, Yb and Lu, B is selected from of or more of Mg, Ca, Sr, Ba, Pb and Cd, and C is selected from Cr, Mn, Fe and Co and w is 0.4 to 0.9, x is 0.1 to 0.6, y is 0.7to 1.5 and z is 2.5 to 3.5 (col. 2 lines 38-44, col. 7 lines 35-49). Johnston further discloses depositing such magnetoresistive material as layers on

substrate via a variety of thin or thick film fabrication techniques such as sputtering etc and the such techniques can deposit the oxide directly or alternatively (col. 8 lines 13-30) wherein a sputtering target of such magnetoresistive material with above disclosed oxide formula is thus expected. It is to be noted that the ranges of the recited elements overlap with the ranges of those elements in the instant claims, thus render a prima facie obviousness (See § MPEP 2144.05 [R-5] I).

Regarding claim 1 and 11, Johnston fails to expressly teach this target has a relative density of 95% or more, an average crystal grain size of 100 um or less , a resistivity of 10 Ωm or less, and a purity of 3N or more.

Wantanabe teaches a sputtering target can be made with a relative density of 95-99%, and purity regulated >4N and particle size less than 20 μm to prevent target cracking (abstract, claim 1,[0003], [0004], [0006]) via controlling pressure and sintering conditions. Wantanabe further discloses the sintered product is made to have a purity more than 4N or higher in order to prevent the growth of the grains in said sintered compact ([0011]) of the sputtering target while a high density sintered compact is good for making a high density sputtering target without cracking ([0004]-[0010]).

It would have been obvious to one of ordinary skill in the art at the time of invention filed to adopt the high purity, high density and probable grain size of the sputtering target as shown by Wantanabe to improve the sputtering target as shown by Johnston. One of ordinary skill in the art would have been motivated to do so because controlling the sputtering target properties such as density, purity, particle sizes can minimize the cracking formation during a high power and high film formation sputtering

process for providing a high intensity sputtering target as indicated by Wantanabe ([0003]-[0006], abstract, claims 1-3).

Kodera teaches sputtering target of a perovskite oxide can have a resistivity ≤10 Ωm for a dielectric formation (claim 1, abstract). Kodera further teaches the electrical resistivity can be controlled by the pervoskite oxide compound's oxygen efficiency during sintering process thus provide a sputtering target for dielectric membrane formation via stable direct-current sputtering technique ([0010]-[0011], [0020],[0022],[0023]).

It would have been obvious to one of ordinary skill in the art at the time of invention filed to adopt resistivity of Kodera to improve the sputtering as shown by Johnston. One of ordinary skill in the art would have been motivated to do so because controlling the resistivity of sputtering target can provide a sputtering target for dielectric membrane formation via stable direct-current sputtering technique as shown by Kodera (abstract, claim1,[0010], [0011], [0020],[0022],[0023]).

Regarding claim 4-5, 7 and 9-10, all the limitations have been met as discussed above.

Regarding claim 6, Johnston does not expressly teach the claimed Ra element can be Sc, however, Johnston already discloses A is selected from one or more of rare earth element. It is well known in the art that scandium (Sc) is one type of rare earth element (see US6214194 col. 11 lines 20-28, also see http://en.wikipedia.org/wiki/Rare_earth_element). Thus the claimed Sc is just an obvious modification from Johnston.

Regarding claim 8 and 12, Wantanabe further discloses the resistivity can be 1 Ωm or $2X10^{-5}$ Ωm ([0020], [0023]).

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUN LI whose telephone number is (571)270-5858. The examiner can normally be reached on Monday-Friday, 9:00am-5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JUN LI/
Examiner, Art Unit 1732
08/09/2011

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1732